

In the Claims:

Please cancel claims 1-7, 11-15, 18-21, 30-37 and 46-49.

Please amend claims 22, 38, and 50 as follows:

1. (CANCELED)
2. (CANCELED)
3. (CANCELED)
4. (CANCELED)
5. (CANCELED)
6. (CANCELED)
7. (CANCELED)
11. (CANCELED)
12. (CANCELED)
13. (CANCELED)
14. (CANCELED)
15. (CANCELED)

18. (CANCELED)

19. (CANCELED)

20. (CANCELED)

21. (CANCELED)

22. (Currently Amended) A magnetic head assembly [as claimed in claim 21] partially bounded by a top surface, a bottom surface and a front surface that forms a portion of an air bearing surface comprising:

first and second pole pieces;

the first pole piece having a ferromagnetic first pole piece layer having front, middle and back portions with the middle portion located between front and back portions;

the first pole piece further having a ferromagnetic pedestal magnetically coupled to the front portion of the first pole piece layer and a ferromagnetic back gap component magnetically coupled to the back portion of the first pole piece layer with the middle portion of the first pole piece layer located between the pedestal and the back gap component;

a dielectric first insulation layer on the middle portion of the first pole piece layer;

a first coil layer located on the first insulation layer which has spaced apart turns and which is spaced from each of the pedestal and the back gap component;

a dielectric second insulation layer located between the turns of the first coil layer and between the first coil layer and each of the pedestal and the back gap component, and wherein the second insulation layer is a first film of photoresist covering the first coil layer and a second film of alumina covering the first film;

the pedestal, the second insulation layer and the back gap component having top surfaces which form a first coplanar surface;

the first coplanar surface having front, middle and back portions with the middle portion located between front and back portions, and wherein the first coil layer has a top surface also forms said first coplanar surface;

a nonmagnetic write gap layer located on the front and middle portions of the first coplanar surface;

the write gap layer having front and rear portions;

the second pole piece having a ferromagnetic pole tip component which is located on the front portion of the write gap layer and which has a width that defines a track width of the write head, wherein the pole tip component having first and second side walls that intersect the ABS;

the second pole piece further having a ferromagnetic back gap component magnetically coupled to the back gap component of the first pole piece;

a dielectric third insulation layer located on the rear portion of the write gap layer in a space between the pedestal and the first back gap component of the second pole piece;

the pole tip component, the third insulation layer and the back gap component of the second pole piece having top surfaces which form a second coplanar surface, and wherein the pole tip component has first and second side walls that intersect the ABS, and

the third insulation layer interfaces the first and second side walls of the pole tip component;

the second coplanar surface having front, middle and back portions with the middle portion located between the front and back portions;

a second coil layer located on the middle portion of the second coplanar surface;

the second pole piece having a second pole piece structure located over the second coil layer and magnetically connected to the pole tip component at the front portion of the second coplanar surface and magnetically connected to

the back gap component of the second pole piece at the back portion of the second coplanar surface; and

a dielectric fourth insulation layer located between the turns of the second coil layer and between the second coil layer and the second pole piece structure.

23. (ORIGINAL) A magnetic head assembly as claimed in claim 22 further including:

a read sensor;
nonmagnetic nonconductive first and second read gap layers;
the read sensor being located between the first and second read gap layers;
a ferromagnetic first shield layer; and
the first and second read gap layers being located between the first shield layer and the first coil layer.

24. (ORIGINAL) A magnetic head assembly as claimed in claim 23 wherein the third insulation layer is entirely alumina.

30. (CANCELED)

31. (CANCELED)

32. (CANCELED)

33. (CANCELED)

34. (CANCELED)

36. (CANCELED)

37. (CANCELED)

38. (Currently Amended) [A method as claimed in claim 37 including:]
A method of making a magnetic head, having an air bearing surface (ABS),
comprising:

- _____ forming first and second pole pieces;
- _____ forming first and second coil layers in the yoke region;
- _____ forming the second pole piece with a ferromagnetic pole tip component
which forms a portion of the ABS and defines a track width of a write head;
- _____ forming a write gap layer between the first pole piece and the pole tip
component;
- _____ forming a dielectric first insulation layer interfacing first and second side
surfaces and a back surface of the pole tip component and located between the
first and second coil layers; and
- _____ forming the second pole piece with a ferromagnetic second pole piece
structure extending across the second coil layer and magnetically connected to
the pole tip component in the front region and the first pole piece in the back gap
region;
- _____ forming the first pole piece with a ferromagnetic pedestal in the front
region and a back gap component in the back gap region;
- _____ forming the first coil layer between the pedestal and the back gap
component of the first pole piece;
- _____ forming a dielectric second insulation layer insulating the first coil layer;
- _____ forming the pedestal and back gap components of the first pole piece, the
first coil layer and the second insulation layer defining a first coplanar surface;
and
- _____ forming the write gap layer between the pedestal and the pole tip
component;
- _____ forming the second pole piece with a ferromagnetic back gap component
magnetically connected to the back gap component of the first pole piece and
with a ferromagnetic second pole piece structure that is magnetically connected

to the pole tip and back gap components of the second pole piece and that extends across the second coil layer and wherein the second pole piece structure is formed as a single layer;

forming a dielectric third insulation layer insulating the second coil layer from the second pole piece structure;

forming the first insulation layer between the pole tip and back gap components of the second pole piece; and

forming the pole tip and back gap components of the second pole piece and the first insulation layer to define a second coplanar surface;

forming the second insulation layer of a first film of photoresist and a second film of alumina; and

forming the first film of the second insulation layer to protect the first coil layer before forming the pedestal and the back gap component of the first pole piece and forming the second film after forming the pedestal and the back gap component of the first pole piece.

39. (ORIGINAL) A method as claimed in claim 38 wherein the third insulation layer is formed to protect the second coil layer before forming the front and back gap components of the second pole piece structure.

40. (ORIGINAL) A method as claimed in claim 39 further including the steps of:

forming a read sensor;

forming nonmagnetic nonconductive first and second read gap layers with the read sensor located between the first and second read gap layers; and

forming a ferromagnetic first shield layer with the first and second read gap layers being located between the first shield layer and the first coil layer.

46. (CANCELED)

47. (CANCELED)

48. (CANCELED)

49. (CANCELED)

50. (Currently Amended) [A method as claimed in claim 49 including the steps of:] A method of making a magnetic head partially bounded by a top surface, a bottom surface and a front surface that forms a portion of an air bearing surface comprising the steps of:

forming first and second pole pieces;

the first pole piece being formed with a ferromagnetic first pole piece layer having front, middle and back portions with the middle portion located between front and back portions;

the first pole piece further being formed with a ferromagnetic pedestal magnetically coupled to the front portion of the first pole piece layer and a ferromagnetic back gap component magnetically coupled to the back portion of the first pole piece layer with the middle portion of the first pole piece layer located between the pedestal and the back gap component;

forming a dielectric first insulation layer on the middle portion of the first pole piece layer;

forming a first coil layer on the first insulation layer with spaced apart turns and spaced from each of the pedestal and the back gap component;

forming a dielectric second insulation layer between the turns of the first coil layer and between the first coil layer and each of the pedestal and the back gap component;

forming the pole tip pedestal, the second insulation layer and the back gap component with top surfaces which form a first coplanar surface with the first coplanar surface having front, middle and back portions with the middle portion located between front and back portions and wherein the first coil layer is formed with a top surface that also forms said first coplanar surface;

forming a nonmagnetic write gap layer on the front and middle portions of the first coplanar surface with the write gap layer having front and rear portions;

forming the second pole piece with a ferromagnetic pole tip component which is located on the front portion of the write gap layer and which has a width that defines a track width of the write head;

further forming the second pole piece with a ferromagnetic back gap component magnetically coupled to the back gap component of the first pole piece and wherein the second pole piece structure is formed as a single layer;

forming a dielectric third insulation layer on the rear portion of the write gap layer in a space between the pedestal and the first back gap component of the second pole piece;

forming the pole tip component, the third insulation layer and the back gap component of the second pole piece having top surfaces which form a second coplanar surface with the second coplanar surface having front, middle and back portions with the middle portion located between the front and back portions;

further forming the pole tip component with first and second side walls that intersect the ABS;

forming the third insulation layer interfacing the first and second side walls of the pole tip component;

forming a second coil layer located on the middle portion of the second coplanar surface;

forming the second pole piece with a second pole piece structure over the second coil layer and magnetically connected to the pole tip component at the front portion of the second coplanar surface and magnetically connected to the back gap component of the second pole piece at the back portion of the second coplanar surface;

forming a dielectric fourth insulation layer located between the turns of the second coil layer and between the second coil layer and the second pole piece structure;

forming the second insulation layer of a first film of photoresist and a second film of alumina; and

forming the first film of the second insulation layer on the first coil layer to protect the first coil layer before forming the pedestal and the back gap component of the first pole piece and forming the second film of the second insulation layer after forming the pedestal and the back gap component of the first pole piece.

51. (ORIGINAL) A method as claimed in claim 50 further including the steps of:

forming a read sensor;

forming nonmagnetic nonconductive first and second read gap layers with the read sensor located between the first and second read gap layers; and

forming a ferromagnetic first shield layer with the first and second read gap layers located between the first shield layer and the first coil layer.

52. (ORIGINAL) A method as claimed in claim 51 wherein the third insulation layer is formed entirely of alumina.